

WALLACE, SPRUCE AND *PALM TREES OF THE AMAZON*: AN HISTORICAL PERSPECTIVE.

MICHAEL J. BALICK

Alfred Russel Wallace's *Palm Trees of the Amazon and Their Uses* ensures the author an important place among students of the Amazonian palm flora and in economic botany. This book, consisting of line drawings of palm trees, botanical descriptions and ethnobotanical observations, was published in 1853. For the most part, it received good reviews, such as the anonymous one in the *Annals and Magazine of Natural History*: "...a valuable companion to the great work on palms by Martius [*Historia Naturalis Palmarum*]" (McKinney, 1971). Wallace's book remains a useful reference for students of the Amazonian palm flora and has recently been made more widely available by Coronado Press through a facsimile edition.

Wallace spent four years in the forests of South America. It was in this period that he compiled his account of the Palmae. During his return voyage to England, his ship, the brig Helen, caught fire and sank on August 6, 1852. Wallace saved the manuscript and drawings for what would become *Palm Trees of the Amazon and Their Uses* along with his drawings of fishes by putting them in a small tin. As a consequence of this fire, his specimens of palms were lost (George, 1964).

During his travels in South America, Wallace met Richard Spruce, the noted British botanist who spent 15 years (1849–1864) studying and collecting the flora of the Amazon Valley and the northern Andes. Spruce's interests in the palms were similar to those of Wallace: in describing species, in understanding and recording geographic distributions and in compiling the local Indian uses. Spruce's explorations and studies are discussed in papers by Angel (1978) and by Schultes (1953, 1968, 1978a and 1978b) and in *Notes of a Botanist on the Amazon and Andes* (Spruce, 1908), a work edited by Wallace and excerpted from Spruce's own letters and journals.

By all accounts, these two explorer-biologists appear to have had a great regard for each other. In the introduction to his posthumous edition of Spruce's notes and letters, Wallace (Spruce, 1908) offered the following tribute: "... and I have myself so high an opinion of my friend's [Spruce's] work, both literary and scientific, that I venture to think the present volumes will take their place among the most interesting and instructive books of travel of the nineteenth century."

In a commentary of Wallace's *Palm Trees of the Amazon and Their Uses*, Spruce (1871) wrote "... a handy volume, which contains the most characteristic representation of Amazonian palms that exist within a small compass."

During a recent visit to the Royal Botanic Gardens, Kew, I had the privilege of studying some of Spruce's correspondence and notes relating to palms and their utilization, notes now preserved in the library archives at that institution. His precise accounts of aboriginal uses, many of which are still current among the inhabitants of Amazonia over a century later, are well worthy of study.

Reading a letter to Sir William Hooker, written by Spruce in 1855, I noticed a postscript paragraph in reply to Hooker's query on *Palm Trees of the Amazon and Their Uses*. This section is reproduced in its entirety as follows:

"You asked me about Wallace's Palms. When he came down the Rio Negro in Sept. 1851 he showed me a few figures of palms. I pointed out to him which seemed to be new, and encouraged him to go on; I also proposed that we should work them up together, I taking the literary part and he the pictorial, which he declined. As I had also met with some of his palms and had my names for them, this caused me to relax in my study of the tribe, seeing myself likely to be forestalled in the results of my labors. —He has sent me a copy—the figures are very pretty, and with some of them he has been very successful. I may instance the fig^s of *Raphia taedigera* and *Acrocomia sclerocarpa*. The worst figure in the book is that of *Iriartea ventricosa*. The most striking fault of nearly all the fig^s of the larger species is that the stem is much too thick compared with the length of the fronds, and that the latter has only half as many pinnae as they ought to have. —The descriptions are worse than nothing, in many cases not mentioning a single circumstance that a botanist would most desire to know; but the accounts of the uses are good. —His *Leopoldinia Piassaba* and *Mauritia Carana* are two magnificent new palms,

both correctly referred to their genus; but the former has been figured from a stunted specimen. I have got a series of specimens for your museum, showing the way in which the *Piassaba* grows on the tree."

Upon study, this letter (the original of which is reproduced in Fig. 1) reveals in clearer outline the professional relationship between Spruce and Wallace and their mutual but competitive interests in the *Palmae*: their meeting in the Amazon, the discovery that they had made similar collections in this important family, Spruce's offer to collaborate on the book and Wallace's subsequent refusal. It appears that Spruce was discouraged on learning that Wallace had discovered and intended to name and describe the same palms, primarily those along the Rio Negro, that he had studied. He writes of "relaxing" his study of the palms, in view of the fact that Wallace would return to England and publish his results before Spruce left South America. Clearly, in this instance, Spruce felt botanically somewhat overshadowed by Wallace, whom he considered a distinguished zoologist and friend.

From the letter, it is apparent that Spruce was dissatisfied with Wallace's book. He is specifically critical of the proportional aspects of the plates (see Fig. 2) and comments that Wallace's descriptions (which Spruce had offered to write) "... are worse than nothing, in many cases not mentioning a single circumstance that a botanist would most desire to know...."

Wallace's shortcomings apparently prompted Spruce to publish a more botanically oriented work on the palms of the Amazon which he entitled *Palmae Amazonicae sive Enumeratio Palmarum in Itinere suo per Regiones Americae Aequatoriales Lectarum* (Spruce, 1871). This work, less generally known than that of Wallace, contains comprehensive discussions of palm genera, Latin descriptions of the species, and comments on many of those which he had studied during his prolonged field work in South America.

This previously unpublished document sheds new light on Spruce's seemingly competitive relationship with Wallace in regard to the palms. Perhaps Spruce's judgement of Wallace's work might be thought to be too harsh when one considers the

loss of Wallace's herbarium. Spruce was evidently disappointed by Wallace's rejection of his offer of collaboration and by the publication of what he considered an inferior book. His candid and confidential remarks to Sir William Hooker offer a revealing picture of one aspect of his relationship with Wallace.

ACKNOWLEDGMENTS

The information presented in this paper was gathered during a trip to the Royal Botanic Gardens, Kew, in connection with systematic studies of the *Oenocarpus-Jessenia* (Palmae) complex, sponsored by the National Science Foundation (DEB-79-18347).

I am grateful to Dr. John Dransfield (Herbarium) and Miss Smith (Archivist) for their valuable assistance and their interest shown during my stay, to Andrew and Ruth Henderson for their gracious hospitality, and to the Director, Royal Botanic Gardens, Kew, for permission to publish the photograph of Spruce's letter. Doctors Ghilleen T. Prance, Richard Evans Schultes and Rupert Barneby have offered valuable comments on the manuscript, and Anne Schwartz provided assistance with the illustrations.

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sending you an account of my ^{own} ^{work} ^{on} ^{the} ^{subject} ^{of} ^{the} ^{Podostemon} ^{salt} ^{that} ^{it} ^{can} ^{be} ^{done} ⁱⁿ ^{the} ^{same} ^{way} ^{as} ^{the} ^{other} ^{specimens} ^{of} ^{any} ^{kind}.

Many thanks for the analysis of the Podostemon salt. I have no doubt the specimen from Demerara scarcely differs from mine from the Gaupes.

Believe me

My dear Sir William

Ever faithfully yours

(Richard Spruce).

You ask me about Wallace's Palms. When he came down the Rio Negro in Sept. 1851 he showed me a few figures of palms. I pointed out to him which seemed to be new, & encouraged him to go on; I also proposed that we should work them up together, I taking the literary part & he the pictorial, which he declined. As I had also met with some of his palms but diff- names for them, this caused me to relax in my study of the tribe, seeing myself likely to be forestalled in the results of my labors. — He has sent me a copy — the figures are very pretty, and with some of them he has been very successful. I may instance the fig^s of *Rapanea* *tedigera* & *Aerocoma* *oleoscapa*. The worst figure in the book is that of *Martian* *ventricosa*. The most striking fault of nearly all the fig^s of the larger species is that the stem is much too thick compared with the length of the fronds, and that the latter have only half as many pinnae as they ought to have. — The descriptions are worse than nothing, in many cases not mentioning a single circumstance that a botanist would most desire to know, but the accounts of the uses are good. — His ~~illustrations~~ ^{figures} of *Piassata* and *Mauritia* *barandii* are two magnificent new palms, both correctly referred to their genus; but the former has been figured from a stunted specimen I have got a series of specimens for your Museum, showing the way in which the *Piassata* grows on the tree.

* Amongst the paper was a mouse's nest full of half-grown young ones, and much of the paper as well as Mr. Wilson Anderson's butterfly nets were gnawed to pieces.

Plate 7. A portion of Spruce's letter to Hooker, from the Archives of the Royal Botanic Gardens, Kew. Reproduced by courtesy of the Director.



PLATE 8.

Plate 8. Wallace's drawing of *Oenocarpus bacaba* compared with a photograph of the same on the Colombian Amazon. The disparity in scale between leaves and trunk and the too small number of pinnae per leaf shown in the drawing are just as mentioned in Spruce's letter. Photograph from the Botanical Museum of Harvard University; drawing courtesy of The New York Botanical Garden.